

Prof James Busfield
FREng, MA, PhD, CEng, FIMMM, FHEA

School of Engineering and Materials Science
Queen Mary University of London
Mile End Road
London E1 4NS

tel: +44 (0)20 7882 8732
email: j.busfield@qmul.ac.uk web: www.sems.qmul.ac.uk/j.busfield

2024

Strain-induced crystallisation of reinforced elastomers using surface calorimetry.

Le Cam J-B, Kyei-Manu WA, Tayeb A, Albouy P-A and Busfield JJC. *Polymer Testing* 108341-108341. Elsevier Bv.

2023

Editorial: Tribute Issue in Honor of Prof. Alan G. Thomas.

Busfield J, Mars W and Muhr A. *Rubber Chemistry and Technology* vol. 96, (4) g1-g1. Rubber Division, Acs.

Characterisation of Sticky Debris Generated During Smear Wear.

Wu G, Sotta P, Huang M, Tunnicliffe LB and Busfield JJC. *Rubber Chemistry and Technology*. Rubber Division, Acs.

Soft robotic patterning of liquids.

Sasso G, Pugno N, Busfield JJC and Carpi F. *Scientific Reports* vol. 13, (1). Springer Nature.

An Electric SelfSensing and VariableStiffness Artificial Muscle.

Liu C, Busfield JJC and Zhang K. *Advanced Intelligent Systems* vol. 5, (9). Wiley.

BROADBAND DIELECTRIC CHARACTERIZATION OF CARBON BLACKREINFORCED NATURAL RUBBER.

Huang M, Tunnicliffe LB, Liao S, Yang B, Yan H and Busfield JJC. *Rubber Chemistry and Technology*. Rubber Division, Acs.

EVALUATING THE CRACK TIP FORMATION AND PROPAGATION ENERGY OF A TROUSER TEAR SPECIMEN.

Windslow RJ, Duncan AM, Hohenberger TW and Busfield JJC. *Rubber Chemistry and Technology*. Rubber Division, Acs.

Improved Dual Network Model for Aging of Rubber Composites under Set Strains.

Duncan AM, Keizo A, Ramier JL and Busfield J. *Macromolecules*. American Chemical Society.

A review of the green chemistry approaches to leather tanning in imparting sustainable leather manufacturing.

Hassan MM, Harris J, Busfield JJC and Bilotti E. *Green Chemistry*. Royal Society of Chemistry (Rsc).

Quasi-static bending fatigue of carbon cord-rubber composites used in timing belts.

Tao Y, Tashiro R, Yonezawa S, Stevens CA, Bilotti E and Busfield JJC. *Rubber Chemistry and Technology*. Rubber Division, Acs.

Micromechanics Model for Rubber Blends Filled by a Nano-Reinforced Devulcanized Recycled Rubber: Application in the Automotive Industry.

Jalali SK, Busfield J and Pugno N. *International Journal of Automotive Technology* vol. 24, (4) 983-994.

Piezoresistive Elastomer Composites Used for Pressure Sensing.

Naderizadeh S, Santagiuliana G, Tu W, Marsh D, Bilotti E and Busfield JJC. *Ieee Sensors Journal*.

An Electric SelfSensing and VariableStiffness Artificial Muscle.
Liu C, Busfield JJC and Zhang K. *Advanced Intelligent Systems*. Wiley.

Evolution of the Viscoelastic Properties of Filler Reinforced Rubber under Physical Aging at Room Temperature.
Vizcaíno-Vergara M, Kari L, Tunnicliffe LB and Busfield J. *Polymers* vol. 15, (7) 1806-1806.Mdpi.

The Influence of Carbon Black Colloidal Properties on the Parameters of the Kraus Model.
Rutherford KJ, Akutagawa K, Ramier JL, Tunnicliffe LB and Busfield JJC. *Polymers* vol. 15, (7) 1675-1675.Mdpi.

Thiyl radical induced cis / trans isomerism in double bond containing elastomers.
Kaur A, Gautrot JE, Akutagawa K, Watson D, Bickley A and Busfield JJC. *Rsc Advances* vol. 13, (34) 23967-23975. *Royal Society of Chemistry (Rsc)*.

A review of the green chemistry approaches to leather tanning in imparting sustainable leather manufacturing.
Hassan MM, Harris J, Busfield JJC and Bilotti E. *Green Chemistry*.

2022

Fluid mixer with two degrees of freedom enabled by dielectric elastomer actuators.
Sasso G, Carpi F, Pugno N and Busfield JJC. *Constitutive Models For Rubber Xii* 504-507. *Taylor & Francis*.

Effect of carbon black properties on the abrasion resistance of rubber compounds at low sliding speed.
Kyei-Manu WA, Hurrell P, Akutagawa K, Busfield JJC, Herd CR and Tunnicliffe LB. *Constitutive Models For Rubber Xii* 489-494. *Taylor & Francis*.

Determining the smear wear mechanism in filled SBR tyre tread compounds.
Koliolios E, Nakano S, Kawamura T, Tsumori I and Busfield JJC. *Constitutive Models For Rubber Xii* 483-488. *Taylor & Francis*.

Evaluating tyre tread friction using a road-wear simulator.
Plaschka EH, Akutagawa K and Busfield JJC. *Constitutive Models For Rubber Xii* 477-482. *Taylor & Francis*.

Anisotropy of nitrile butadiene rubber induced by thermal ageing at fixed strain.
Duncan AM, Akutagawa K, Ramier JL and Busfield JJC. *Constitutive Models For Rubber Xii* 434-439. *Taylor & Francis*.

Oxidation and ageing in block copolymers.
Patel RS, Zhang W, Moggridge GD and Busfield JJC. *Constitutive Models For Rubber Xii* 427-433. *Taylor & Francis*.

Physical ageing evolution of the viscoelastic properties of filler reinforced rubber measured with the torsion pendulum after a temperature change.
Vizcaíno-Vergara M, Kari L and Busfield JJC. *Constitutive Models For Rubber Xii* 397-401. *Taylor & Francis*.

The challenge of simulating rubber seal leakage with FEA: Experimental and numerical demonstrations.
Hohenberger TW and Busfield JJC. *Constitutive Models For Rubber Xii* 251-257. *Taylor & Francis*.

Kinetic analysis of thiol-ene based cross-linking reaction of polychloroprene rubber.
Kaur A, Gautrot JE, Cavalli G, Watson D, Bickley A, Akutagawa K and Busfield JJC. *Constitutive Models For Rubber Xii* 223-229. *Taylor & Francis*.

Effect of carbon black colloidal properties on the dynamical mechanical behavior of nitrile butadiene rubber composites.
Rutherford KJ, Akutagawa K, Ramier JL and Busfield JJC. *Constitutive Models For Rubber Xii* 133-138. *Taylor & Francis*.

Viscoelastic characterisation of carbon black reinforced rubber using the torsion pendulum: Guidelines and temperature sweep results.
Vizcaíno-Vergara M, Tunnicliffe LB, Busfield JJC and Kari L. *Polymer Testing* vol. 114,.Elsevier.

The Effect of Thermal Ageing on the Fatigue Resistance of Hydrogenated Acrylonitrile Butadiene Rubber (HNBR) Compounds.
Shaw B, Ramier J and Busfield JJC. *Advances in Polymer Science* 143-165.

The Influence of Colloidal Properties of Carbon Black on Static and Dynamic Mechanical Properties of Natural Rubber.

Kyei-Manu W, Herd C, Chowdhury M, Busfield J and Tunncliffe L. *Polymers* vol. 14, 1194-1194.Mdpi.

METHOD TO GENERATE ACCURATE ELASTIC AND HYPERELASTIC UNIAXIAL TENSION STRESS-STRAIN DATA WITHOUT AN EXTENSOMETER.

Hohenberger TW and Busfield JJC. *Rubber Chemistry and Technology*.

2021

The Nail Penetration Behaviour of Carbon Nanotube Composite Electrodes for Energy Storage.

Koliolios E, Mills DG, Busfield JJC and Tan W. *Frontiers in Materials* vol. 8, 741541-741541.Frontiers Media.

Thermomechanical Characterization of Carbon Black Reinforced Rubbers During Rapid Adiabatic Straining.

Kyei-Manu WA, Tunncliffe LB, Plagge J, Herd CR, Akutagawa K, Pugno NM and Busfield JJC. *Frontiers in Materials* vol. 8, 743146-743146.

Characterising the friction coefficient between rubber O-rings and a rigid surface under extreme pressures.

Yanes E, Pugno NM, Ramier J, Berryhill B and Busfield JJC. *Polymer Testing* 107378-107378.

Novel Crosslinking System for Poly-Chloroprene Rubber to Enable Recyclability and Introduce Self-Healing.

Kaur A, Gautrot JE, Cavalli G, Watson D, Bickley A, Akutagawa K and Busfield JJC. *Polymers* vol. 13, (19).Mdpi.

Electrically Tunable Lenses: A Review.

Chen L, Ghilardi M, Busfield JJC and Carpi F. *Frontiers in Robotics and AI* vol. 8,.Frontiers Media Sa.

A Soft Touch: Wearable Tactile Display of Softness Made of Electroactive Elastomers.

Frediani G, Boys H, Ghilardi M, Poslad S, Busfield JJC and Carpi F. *Advanced Materials Technologies*.

2020

Determination of the Loading Mode Dependence of the Proportionality Parameter for the Tearing Energy of Embedded Flaws in Elastomers Under Multiaxial Deformations.

WINDSLOW R, Hohenberger T and Busfield J. *Advances in Polymer Science*.Springer Verlag.

The effect of conductive network on positive temperature coefficient behaviour in conductive polymer composites.

Liu Y, Asare E, Porwal H, Barbieri E, Goutianos S, Evans J, Newton M, Busfield JJC, Peijs T, Zhang H and Bilotti E. *Composites Part a: Applied Science and Manufacturing* vol. 139,.Elsevier.

Electrically tunable directional light scattering from soft thin membranes.

Chen L, Busfield J and Carpi F. *Optics Express* vol. 28, (14) 20669-20685.The Optical Society.

Modeling the Full Time-Dependent Phenomenology of Filled Rubber for Use in Anti-Vibration Design.

Carleo F, Plagge J, Wear, R, Busfield J and Klppel M. *Polymers* vol. 12, (4) 841-841.Mdpi Ag.

Fatigue of carbon cord-rubber composites: Effect of frequency, R ratio and lifetime prediction using constant life models.

Busfield J, Bilotti E, Peijs T, Tao Y and Stevens C. *International Journal of Fatigue*.Elsevier.

Bioreactor with electrically deformable curved membranes for mechanical stimulation of cell cultures.

Costa J, Ghilardi M, Mamone V, Ferrari V, Busfield J, Ahluwalia A and Carpi F. *Frontiers in Bioengineering and Biotechnology* vol. 8,.Frontiers Media.

Sustainable and self-regulating out-of-oven manufacturing of FRPs with integrated multifunctional capabilities.

Liu Y, van Vliet T, Tao Y, Busfield JJC, Peijs T, Bilotti E and Zhang H. *Composites Science and Technology* vol. 190,.Elsevier.

2019

Electrically tuning soft membranes to both a higher and a lower transparency.

Chen L, Ghilardi M, Busfield JJC and Carpi F. *Scientific Reports* vol. 9, (1).Nature Publishing Group.

A new generalized philosophy and theory for rubber friction and wear.

Fukahori Y, Gabriel P, Liang H and Busfield JJC. *Wear* 203166-203166.Elsevier.

Constitutive Model for both Low and High Strain Non-Linearities in Highly Filled Elastomers and Implementation with user-defined Material Subroutines in Abaqus.

Busfield J, Hohenberger T, Pugno N and WINDSLOW R. *Rubber Chemistry and Technology* vol. 92, (4) 653-686. American Chemical Society.

Smart Lenses with Electrically Tuneable Astigmatism.

Ghilardi M, Boys H, Trk P, Busfield JJC and Carpi F. *Scientific Reports* vol. 9, (1) 16127-16127.Nature Publishing Group.

Water-Responsive and Mechanically-Adaptive Natural Rubber Composites by in-Situ Modification of Mineral Filler Structures.

Banerjee SS, Hait S, Natarajan TS, Wiessner S, Stckelhuber KW, Jehnichen D, Janke A, Fischer D, Heinrich G, Busfield JJC and Das A. *The Journal of Physical Chemistry B.American Chemical Society (Acs)*.

Viscoelastic Modelling of Extrusion Damage in Elastomer Seals.

BUSFIELD JJC and WINDSLOW R. *Soft Materials* vol. 17, (3) 228-240.Taylor & Francis.

Modelling of elastomeric materials and products.

BUSFIELD J. *Plastics, Rubber and Composites* vol. 48, (1) 1-2.

2018

Pyroresistivity in Conductive Polymer Composites: A Perspective on Recent Advances and New Applications.

BILOTTI E, LIU Y, ZHANG H, PORWAL H, BUSFIELD J and PEIJS AA. *Polymer International*.Wiley.

Enabling portable multiple-line refreshable Braille displays with electroactive elastomers.

Frediani G, Busfield J and Carpi F. *Medical Engineering and Physics* vol. 60, 86-93.

Development of a novel fatigue test method for cord-rubber composites.

Tao Y, Windslow R, Stevens CA, Bilotti E, Peijs T and Busfield JJC. *Polymer Testing* vol. 71, 238-247.

Limitations of viscoelastic constitutive models for carbon-black reinforced rubber in medium dynamic strains and medium strain rates.

Carleo F, Barbieri E, Whear R and Busfield JJC. *Polymers* vol. 10, (9).

Smart cord-rubber composites with integrated sensing capabilities by localised carbon nanotubes using a simple swelling and infusion method.

Tao Y, Liu Y, Zhang H, Stevens CA, Bilotti E, Peijs T and Busfield JJC. *Composites Science and Technology* vol. 167, 24-31.

Adhesive Friction Behaviour of Rough Rubber Surfaces sliding against Smooth Rigid Surfaces.

BUSFIELD JJC, Thomas A and STRATFORD DEVALBA D. *Rubber Chemistry and Technology* vol. 91, (3) 621-632. American Chemical Society.

.-

, SAKULKAEW K and BUSFIELD JJC. *æ—¥ææ¬ã, 'ãf ð•"ä'4šëªÆ* vol. 91, (8) 316-323.

.-

, SAKULKAEW K and BUSFIELD JJC. *æ—¥ææ¬ã, 'ãf ð•"ä'4šëªÆ* vol. 91, (6) 185-191.

Tailored pyroresistive performance and flexibility by introducing a secondary thermoplastic elastomeric phase into graphene nanoplatelet (GNP) filled polymer composites for self-regulating heating devices.

Liu Y, Zhang H, Porwal H, Tu W, Wan K, Evans J, Newton M, Busfield JJC, Peijs T and Bilotti E. *Journal of Materials Chemistry C* vol. 6, (11) 2760-2768.

2017

Investigation of interfacial slippage on filler reinforcement in carbon-black filled elastomers.

Busfield JJC, Jha V, Hon AA and Thomas AG. *Constitutive Models For Rubber Iv* 458-464. Taylor & Francis.

Universal Control on Pyro-resistive Behaviour of Flexible Self-regulating Heating Devices.

LIU Y, ZHANG H, PORWAL H, TU W, Evans J, NEWTON M, BUSFIELD JJC, Peijs and Bilotti E. *Advanced Functional Materials*. Wiley.

A new physical aspect for elastic-viscous transition and velocity jump in fracture of rubbers.

Fukahori Y, Sakulkaew K and Busfield JJC. *Polymer* vol. 125, 30-39.

Characterising the cyclic fatigue performance of HNBR after aging in high temperatures and organic solvents for dynamic rubber seals.

Shaw BHK, Busfield JJC, Jerabek J and Ramier J. *Constitutive Models For Rubber X* 331-334. Taylor & Francis.

A new constitutive model for carbon-black reinforced rubber in medium dynamic strains and medium strain rates.

Carleo F, Busfield JJC, Whear R and Barbieri E. *Constitutive Models For Rubber X* 115-118. Taylor & Francis.

A RVE procedure to estimate the J-Integral for rubber like materials.

Welsch M. *Constitutive Models For Rubber X* 145-151. Taylor & Francis.

Fatigue behaviour of unidirectional carbon-cord reinforced composites and parametric models for life prediction.

Tao Y, Bilotti E, Busfield JJC and Stevens CA. *Constitutive Models For Rubber X* 263-266.

Service life prediction under combined cyclic and steady state tearing.

Windslow RJ and Busfield JJC. *Constitutive Models For Rubber X* 295-300. Taylor & Francis.

Surface free energy analysis of electrospun fibers based on Rayleigh-Plateau / Weber instabilities.

Stachewicz U, Dijkman JF, Soudani C, Tunnicliffe LB, BUSFIELD JJC and Barber AH. *European Polymer Journal*. Elsevier.

2016

Effects of surface deactivation of carbon black on thermo-mechanical sensitivity of filler networks in rubber compounds.

BUSFIELD JJC, tunnicliffe L and thomas A. *Macromolecular Materials and Engineering*.

Reinforcement of rubber and filler network dynamics at small strains.

BUSFIELD JJC and tunnicliffe.

Strain-Dependent Dielectric Behavior of Carbon Black Reinforced Natural Rubber.

Huang M, Tunnicliffe LB, Zhuang J, Ren W, Yan H and Busfield JJC. *Macromolecules* vol. 49, (6) 2339-2347. *American Chemical Society (Acs)*.

2015

Effect of swelling level on fatigue lifetime of filled nitrile rubber.

Le Cam & E. Robin M.S. Loo A. Andriyana J-B. *Constitutive Models For Rubber IX* 471-476. Taylor & Francis.

Electrical breakdown of an acrylic dielectric elastomer: effects of hemispherical probing electrodes size and force.

Chen B, Kollosche M, Stewart M, Busfield J and Carpi F. *International Journal of Smart and Nano Materials* vol. 6, (4) 290-303. Taylor & Francis.

Erratum.

. *International Journal of Smart and Nano Materials* vol. 6, (4) x-x. Taylor & Francis.

The free retraction of natural rubber: A momentum-based model.

Tunnicliffe LB, Thomas AG and Busfield JJC. *Polymer Testing* vol. 47, 36-41. Elsevier.

The glass transition, segmental relaxations and viscoelastic behaviour of particulate-reinforced natural rubber.

Huang M, Tunnicliffe LB, Thomas AG and Busfield JJC. *European Polymer Journal* vol. 67, 232-241. Elsevier.

2014

Flocculation and viscoelastic behaviour in carbon black-filled natural rubber.

Tunnicliffe LB, Kadlcak J, Morris MD, Shi Y, Thomas AG and Busfield JJC. *Macromolecular Materials and Engineering* vol. 299, (12) 1474-1483.

Stress relaxation, creep and set recovery of elastomers.

Yamaguchi K, Thomas AG and Busfield JJC. *International Journal of Non-Linear Mechanics*.

Enhanced conductivity behavior of polydimethylsiloxane (PDMS) hybrid composites containing exfoliated graphite nanoplatelets and carbon nanotubes.

Kong KTS, Mariatti M, Rashid AA and Busfield JJC. *Composites Part B: Engineering* vol. 58, 457-462.

Deformation of uncemented metal acetabular cups following impactation: Experimental and finite element study.

Hothi HS, Busfield JJC and Shelton JC. *Computer Methods in Biomechanics and Biomedical Engineering* vol. 17, (11) 1261-1274.

2013

The effect of temperature on the tearing of rubber.

Sakulkaew K, Thomas AG and Busfield JJC. *Polymer Testing* vol. 32, (1) 86-93.

Elastic-viscous transition in tear fracture of rubbers.

Fukahori Y, Sakulkaew K and Busfield JJC. *Polymer* vol. 54, (7) 1905-1915.

MODIFIED GUTH-GOLD EQUATION FOR CARBON BLACK-FILLED RUBBERS.

Fukahori Y, Hon AA, Jha V and Busfield JJC. *Rubber Chemistry and Technology* vol. 86, (2) 218-232.

Auxetic oesophageal stents: structure and mechanical properties.

Ali MN, Busfield JJC and Rehman IU. *Journal of Materials Science: Materials in Medicine* 1-27.

Studying NR/organo-montmorillonite nanocomposites with silane coupling agents via network visualization tem.

Lowe DJ, Chapman AV, Cook S and Busfield JJC. *Rubber Chemistry and Technology* vol. 86, (4) 538-557.

The effect of fillers on crosslinking, swelling and mechanical properties of peroxide-cured rubbers.

Tunnicliffe LB, Thomas AG, Busfield JJC and Farid AS. *Constitutive Models For Rubber* Viii 563-568.

Evaluation of the tearing energy in a radial tyre.

Baumard TLM, Thomas AG and Busfield JJC. *Constitutive Models For Rubber* Viii 377-382.

The application of a carbon black filled elastomer to create a smart strain sensor.

Huang M, Thomas AG and Busfield JJC. *Constitutive Models For Rubber* Viii 705-710.

Electrical breakdown of dielectric elastomer actuator materials.

Chen B, Busfield JJC, Stewart M and Cain MG. *Constitutive Models For Rubber* Viii 701-704.

Dielectric elastomer actuators for tuneable optics.

Zahabi H, Frediani G, Busfield JJC and Carpi F. *Constitutive Models For Rubber* Viii 697-700.

Effect of the blade sharpness on the blade abrasion of rubber.

Wu G, Thomas AG and Busfield JJC. *Constitutive Models For Rubber* Viii 65-68.

2012

Fatigue peeling at rubber interfaces.

Baumard TLM, Thomas AG and Busfield JJC. *Plastics, Rubber and Composites* vol. 41, (7) 296-300.

Editorial.

Busfield J. *Plastics, Rubber and Composites* vol. 41, (7) 271-272.

Silica-rubber microstructure visualised in three dimensions by focused ion beam-scanning electron microscopy.
Tunnicliffe LB, Thomas AG and Busfield JJC. *Journal of Microscopy* vol. 246, (1) 77-82.

2011

Micromechanical models of young's modulus of NR/organoclay nanocomposites.

Lowe DJ, Chapman AV, Cook S and Busfield JJC. *Journal of Polymer Science, Part B: Polymer Physics* vol. 49, (22) 1621-1627.

The dynamic properties of fumed silica filled SBR as function of pre-strain.

Suphadon N and Busfield JJC. *Polymer Testing* vol. 30, (7) 779-783.

Natural rubber nanocomposites by in situ modification of clay.

Lowe DJ, Chapman AV, Cook S and Busfield JJC. *Macromolecular Materials and Engineering* vol. 296, (8) 693-702.

Light scattering and transmission studies of nanofiller particulate size, matrix cavitation, and high strain interfacial dewetting behavior in silica-elastomer composites.

Tunnicliffe LB, Thomas AG and Busfield JJC. *Journal of Polymer Science, Part B: Polymer Physics* vol. 49, (15) 1084-1092.

Effects of types of fillers and filler loading on the properties of silicone rubber composites.

Kong SM, Mariatti M and Busfield JJC. *Journal of Reinforced Plastics and Composites* vol. 30, (13) 1087-1096.

Fatigue life prediction of bonded rubber components at elevated temperature.

Asare S and Busfield JJC. *Plastics, Rubber and Composites* vol. 40, (4) 194-200.

Modelling of elastomeric materials and products.

Busfield JJC. *Plastics, Rubber and Composites* vol. 40, (4) 151-153.

The effect of the rate of strain on tearing in rubber.

Sakulkaew K, Thomas AG and Busfield JJC. *Polymer Testing* vol. 30, (2) 163-172.

Explicit finite element modelling of the impact of metal press-fit acetabular components.

Hothi HS, Busfield JJC and Shelton JC. *Proceedings of The Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine* vol. 225, (3) 303-314.

2010

Axial compression of hollow elastic spheres.

Shorter R, Smith JD, Coveney VA and Busfield JJC. *Journal of Mechanics of Materials and Structures* vol. 5, (5) 693-705.

Fea modeling of schallamach waves.

Gabriel P, Fukahori Y, Thomas AG and Busfield JJC. *Rubber Chemistry and Technology* vol. 83, (4) 358-367.

How does rubber truly slide between Schallamach waves and stick-slip motion?.

Fukahori Y, Gabriel P and Busfield JJC. *Wear* vol. 269, (11-12) 854-866.

The viscoelastic behavior of rubber under a complex loading. II. The effect large strains and the incorporation of carbon black.

Suphadon N, Thomas AG and Busfield JJC. *Journal of Applied Polymer Science* vol. 117, (3) 1290-1297.

The viscoelastic behaviour of rubber under a small simple shear oscillation superimposed on a large pure shear.

Suphadon N, Thomas AG and Busfield JJC. *Polymer Testing* vol. 29, (4) 440-444.

Reversible electrical behavior with strain for a carbon black-filled rubber.

Jha V, Thomas AG, Bennett M and Busfield JJC. *Journal of Applied Polymer Science* vol. 116, (1) 541-546.

Piezoresistive polymer composites based on EPDM and MWNTs for strain sensing applications.

Ciselli P, Lu L, Busfield JJC and Peijs T. *E-Polymers*.

Influence of interface geometry on rubber friction.

Gabriel P, Thomas AG and Busfield JJC. *Wear* vol. 268, (5-6) 747-750.

The steady state abrasion of rubber: Why are the weakest rubber compounds so good in abrasion?.

Liang H, Fukahori Y, Thomas AG and Busfield JJC. *Wear* vol. 268, (5-6) 756-762.

2009

Editorial: Rubber in engineering.

Busfield J and Burke M. *Plastics, Rubber and Composites* vol. 38, (8).

Elastic behaviour of rubber cylinders under combined torsion and tension loading.

Suphadon N and Busfield JJC. *Plastics, Rubber and Composites* vol. 38, (8) 337-342.

Hyperelasticity with volumetric damage.

. *Constitutive Models For Rubber Vi* 295-300. Taylor & Francis.

Modelling friction and abrasion in rubber.

Busfield J. *Constitutive Models For Rubber Vi* 289-293. Taylor & Francis.

The visco-elastic behaviour of elastomers at large pre-strains.

Suphadon N, Busfield J and Thomas A. *Constitutive Models For Rubber Vi* 153-157. Taylor & Francis.

The mechanics of sliding friction between a rigid indenter and a rubber surface.

Busfield J, Thomas A, Gabriel P and Fukahori Y. *Constitutive Models For Rubber Vi* 305-309. Taylor & Francis.

Viscoelastic behavior of rubber under a complex loading.

Suphadon N, Thomas AG and Busfield JJC. *Journal of Applied Polymer Science* vol. 113, (2) 693-699.

Rubber abrasion at steady state.

Liang H, Fukahori Y, Thomas AG and Busfield JJC. *Wear* vol. 266, (1-2) 288-296.

Cyclic stress relaxation (CSR) of filled rubber and rubber components.

Asare S, Thomas AG and Busfield JJC. *Rubber Chemistry and Technology* vol. 82, (1) 104-112.

2008

Rate transitions in the fatigue crack growth of elastomers.

Papadopoulos IC, Thomas AG and Busfield JJC. *Journal of Applied Polymer Science* vol. 109, (3) 1900-1910.

Criteria for crack initiation during rubber abrasion.

Fukahori Y, Liang H and Busfield JJC. *Wear* vol. 265, (3-4) 387-395.

Modeling of the effect of rigid fillers on the stiffness of rubbers.

Jha V, Hon AA, Thomas AG and Busfield JJC. *Journal of Applied Polymer Science* vol. 107, (4) 2572-2577.

Multifunctional elastomer nanocomposites based on EPDM and carbon nanotubes.

Ciselli P, Lu L, Busfield JJC and Peijs T. *Materials Research Society Symposium Proceedings* vol. 1143, 31-42.

Multifunctional Elastomer Nanocomposites based on EPDM and Carbon Nanotubes.

Ciselli P, Lu L, Busfield JJ and Peijs T. *Mrs Advances* vol. 1143, Springer Nature.

2007

Volume changes under strain resulting from the incorporation of rubber granulates into a rubber matrix.

Kumar P, Fukahori Y, Thomas AG and Busfield JJC. *Journal of Polymer Science, Part B: Polymer Physics* vol. 45, (23) 3169-3180.

Recycled rubber: The rubber granulate - Virgin rubber interface.

Kumar P, Fukahori Y, Thomas AG and Busfield JJC. *Rubber Chemistry and Technology* vol. 80, (1) 24-39.

2006

Selection of elastomers for a synthetic heart valve.

Baxter S, Busfield JJC and Peijs T.

Using FEA techniques to predict fatigue failure in elastomers.

Busfield JJC and Ng WH.

Chapter 12 Selection of Elastomers for a Synthetic Heart Valve.

Baxter S, Busfield JJC and Peijs T. *Elastomers and Components* 171-177. Elsevier.

The Rubber in Engineering Series IOM3.

Boast D, Busfield JJC, Coveney VA, Hepburn C, Muhr AH and Whear R. *Elastomers and Components*. Elsevier.

Appendix: Contact Details for Authors.

Abraham F, Albihi P, Alshuth T, Azura AR, Busfield J, Campion R, Clotet M, Cook P, Coveney V, Daley J, Jerrams S, Johnson D, Lokander M, Mars W, Morgan G, Muhr A, Rizk R, Stenberg B, Thomas A, Wu W and Yeoh OH. *Elastomers and Components* 227-230. Elsevier.

Chapter 13 Using FEA Techniques to Predict Fatigue Failure in Elastomers.

Busfield JJC and Ng WH. *Elastomers and Components* 179-193. Elsevier.

2005

Prediction of fatigue crack growth using finite element analysis techniques applied to three-dimensional elastomeric components.

Busfield JJC, Jha V, Liang H, Papadopoulos IC and Thomas AG. *Plastics, Rubber and Composites* vol. 34, (8) 349-356.

Electrical and mechanical behavior of filled rubber. III. Dynamic loading and the rate of recovery.

Busfield JJC, Thomas AG and Yamaguchi K. *Journal of Polymer Science, Part B: Polymer Physics* vol. 43, (13) 1649-1661.

2004

Electrical and mechanical behavior of filled elastomers 2: The effect of swelling and temperature.

Busfield JJC, Thomas AG and Yamaguchi K. *Journal of Polymer Science, Part B: Polymer Physics* vol. 42, (11 SPEC. ISS.) 2161-2167.

2003

Electrical and mechanical behavior of filled elastomer. I. The effect of strain.

Yamaguchi K, Busfield JJC and Thomas AG. *Journal of Polymer Science, Part B: Polymer Physics* vol. 41, (17) 2079-2089.

2002

Contributions of time dependent and cyclic crack growth to the crack growth behavior of non strain-crystallizing elastomers.

Busfield JJC, Tsunoda K, Davies CKL and Thomas AG. *Rubber Chemistry and Technology* vol. 75, (4) 643-656.

2001

Stiffness of simple bonded elastomer bushes Part 1 - Initial behaviour.

Busfield JJC and Davies CKL. *Plast Rubber Compos* vol. 30, (5) 243-257.

2000

Effect of materials variables on the tear behaviour of a non-crystallising elastomer.

Tsunoda K, Busfield JJC, Davies CKL and Thomas AG. *J Mater Sci* vol. 35, (20) 5187-5198.

The effect of liquids on the dynamic properties of carbon black filled natural rubber as a function of pre-strain.
Busfield JJC, Deeprasertkul C and Thomas AG. *Polymer* vol. 41, (26) 9219-9225.

Microstructure of ceramic foams.

Peng HX, Fan Z, Evans JRG and Busfield JJC. *Journal of The European Ceramic Society* vol. 20, (7) 807-813.

1999

Indentation tests on elastomer blocks.

Busfield JJC and Thomas AG. *Rubber Chemistry and Technology* vol. 72, (5) 876-893.

1998

Finite-element-assisted modelling of a thermoplastic pultrusion process for powder-impregnated yarn.

Haffner SM, Friedrich K, Hogg PJ and Busfield JJC. *Composites Science and Technology* vol. 58, (8) 1371-1380.

Finite Element Assisted Modelling of the Microscopic Impregnation Process in Thermoplastic Preforms.

Haffner SM, Friedrich K, Hogg PJ and Busfield JJC. *Applied Composite Materials* vol. 5, (4) 237-255.